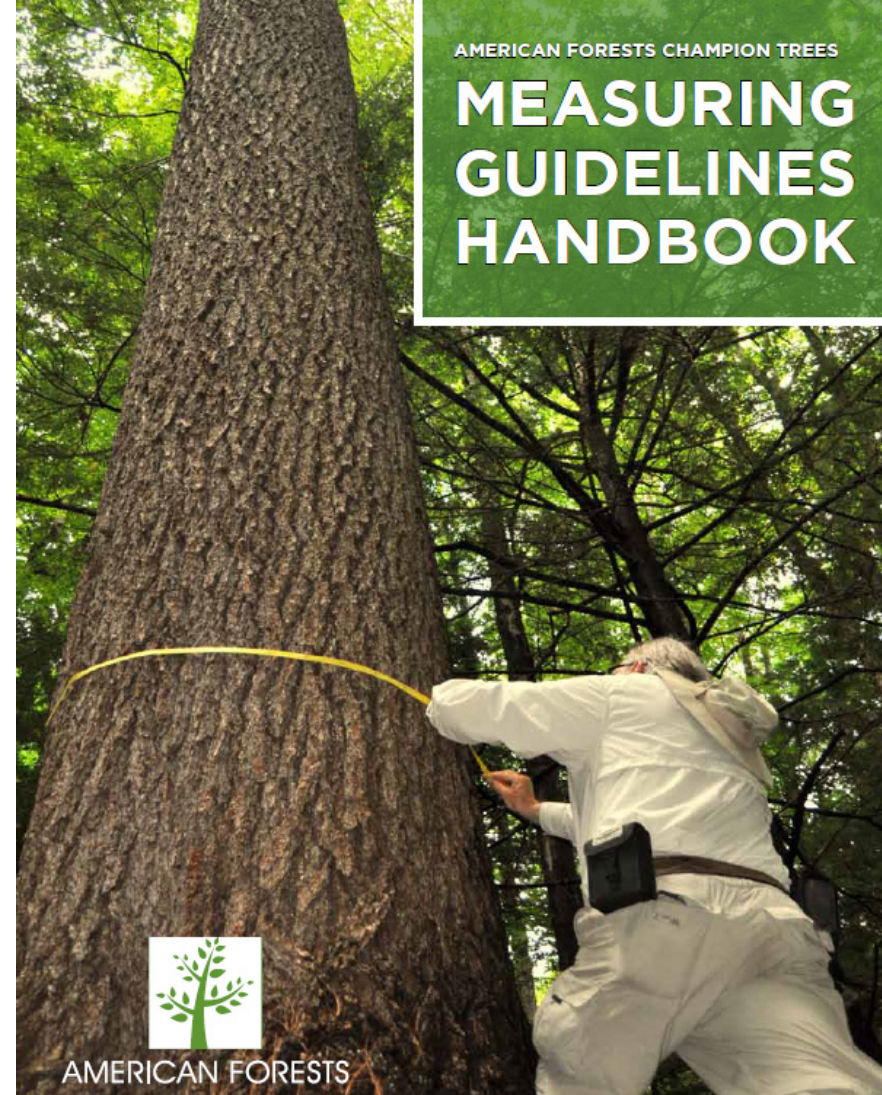


Big Tree Measurement and Scoring: Virginia Big Tree Program

- The Virginia Big Tree Program uses the big tree measuring guidelines of the American Forests Champion Trees Program
- Tree measurements are used to calculate the big tree score for the Virginia Big Tree Register
- Tree measurements include:
 - Trunk circumference
 - Tree height
 - Crown spread
- The big tree score is calculated as:
Trunk circumference (feet) +
Tree height (feet) +
 $\frac{1}{4}$ Crown spread (feet)
- Presented here are basic measurement techniques. Additional information is available in the Measuring Guidelines Handbook

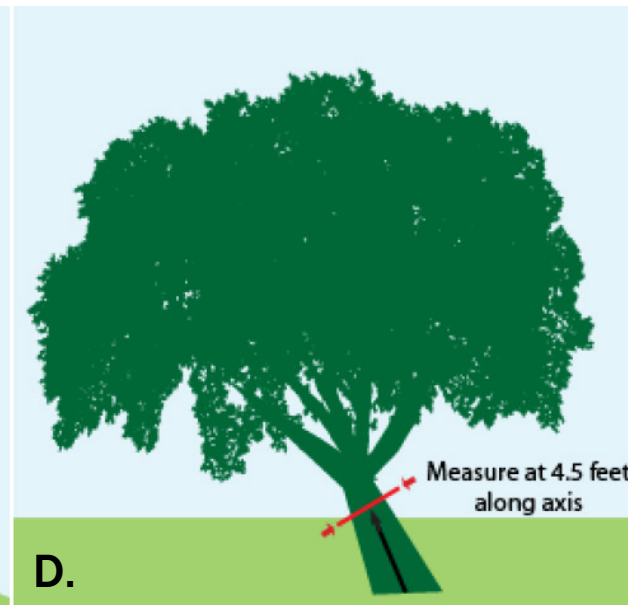
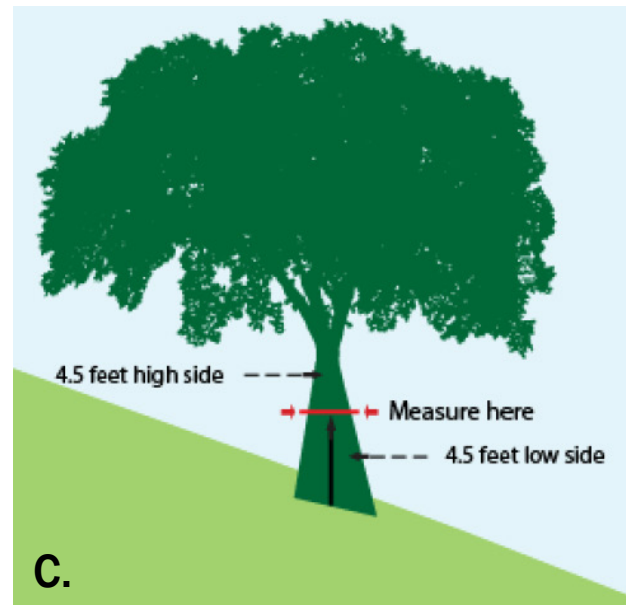
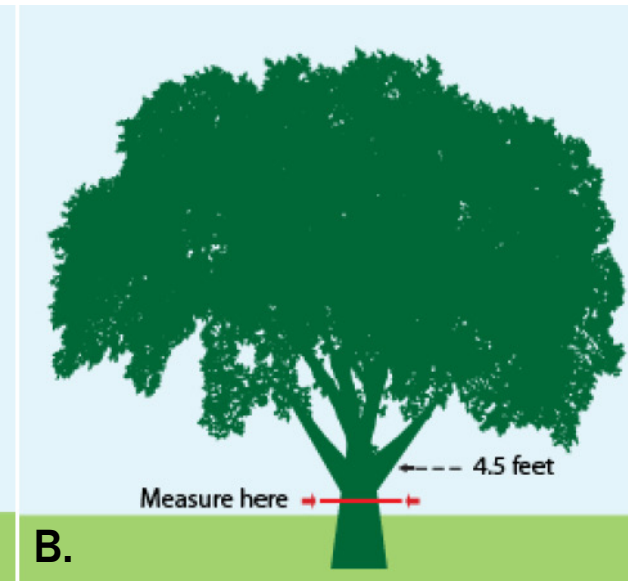
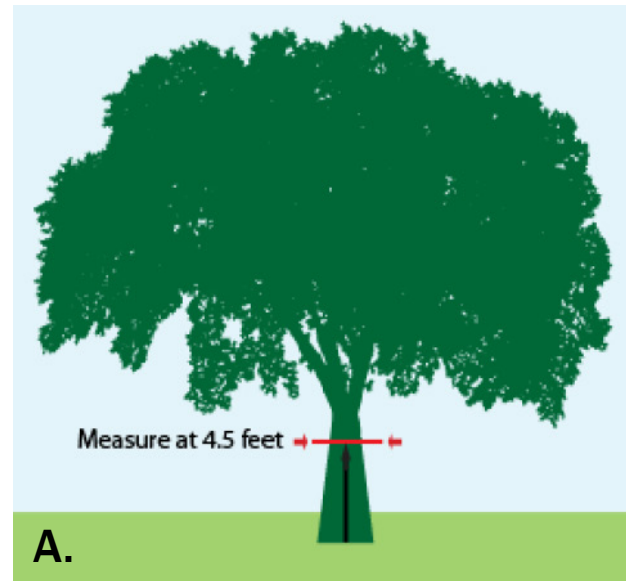


[http://www.americanforests.org/bigtrees/
champion-tree-measuring-guidelines](http://www.americanforests.org/bigtrees/champion-tree-measuring-guidelines)

Trunk Circumference

1 big tree point is awarded for each inch of trunk circumference

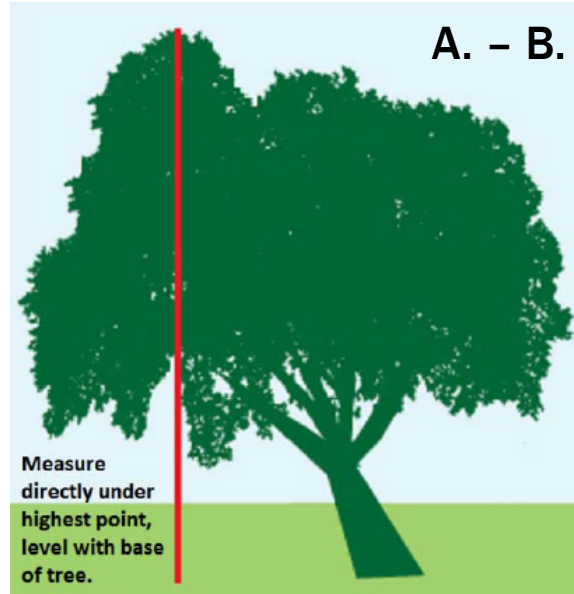
- A. For typical trees on flat ground, measure the trunk circumference at 4.5' above ground line.
- B. For trees with branches at or below 4.5', measure the smallest trunk circumference between branches and ground level.
- C. For a straight tree on a slope, measure the trunk circumference at 4.5' above the mid-point of the trunk on the slope.
- D. For leaning trees, measure the trunk circumference at 4.5' along the main axis of the trunk above ground line.



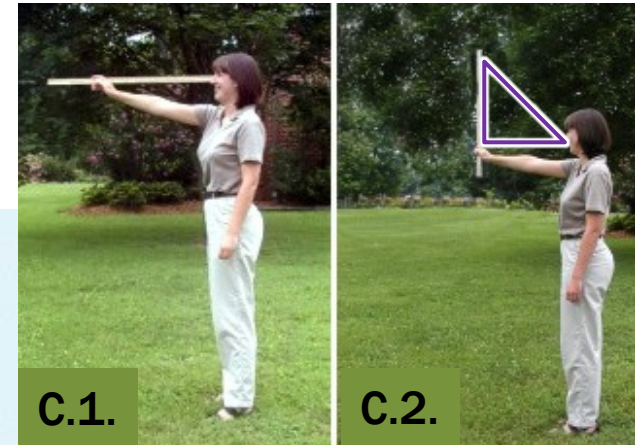
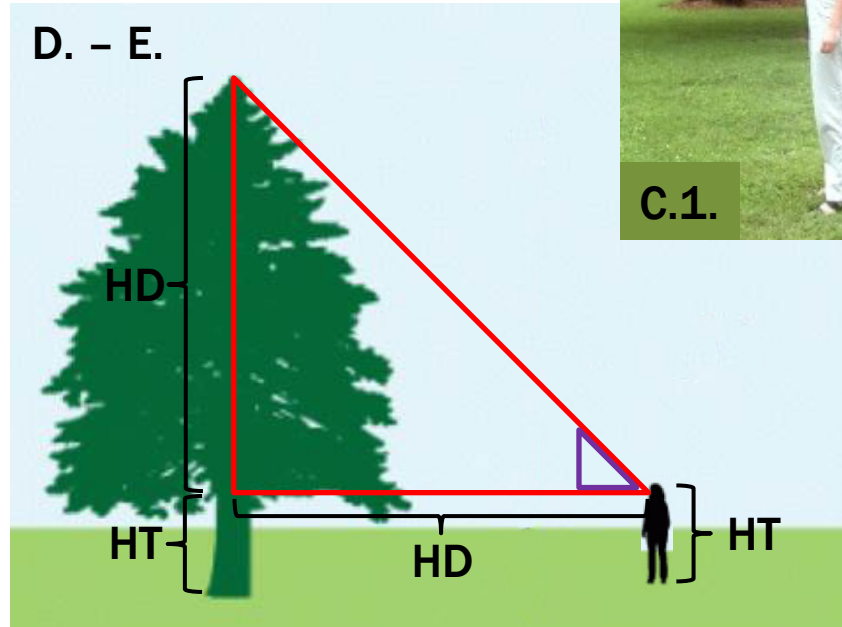
Tree Height

1 big tree point is awarded for each foot of tree height

- A. Identify the maximum vertical distance between a live branch and a point on the ground directly below it.
- B. Standing on the same elevation as the tree, step back until you have a clear view of the crown top and ground point directly below it.
- C. Hold a yard stick with your arm fully outstretched (1) and place the tip near your eye. Tilt the stick up vertically while holding your arm level (2).
- D. Step forward or backward until the tip of the yard stick aligns with the top of the crown.
- E. The tree height equals your horizontal distance (HD) from the tree plus your height (HT).



Note: This technique is most accurate for straight trees on flat ground.



This technique works because the red and purple triangles are similar right triangles.

1/4 big tree point is awarded for each foot of crown spread

Crown Spread

- A. Observe the tree from multiple angles at a distance to identify its maximum crown spread.
- B. Using a plumb bob or a level as a reference, mark the ground directly below the two end points (P1, P2) of the maximum crown spread (E1).
- C. Stretch a measuring tape horizontally between the end points (P1, P2) and record the distance.
- D. Turn 90° to the first maximum crown spread (E1) and mark the ground directly below the two end points (P3, P4) of the second maximum crown spread (E2).
- E. Stretch a measuring tape horizontally between the end points (P3, P4) and record the distance.
- F. Average the measurements for E1 and E2.

Note: Neither crown spread dimension (E1, E2) is required to go through the trunk.

